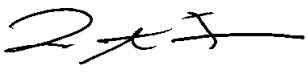




I certify that I am authorized to sign for the manufacturer and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

UNITED STATES TECHNOLOGIES, INC. (AGENT RESPONSIBLE FOR TEST):

By: 

Name: Louis A. Feudi

Title: Operations Manager

Date: December 5, 2005

**Radio Systems Corporation
10427 Electric Ave.
Knoxville, TN 37932**

By: _____

Name: _____

Title: _____

Date: _____

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U.S. Technologies, Inc.

FCC Part 15, Class B Application

Issue Date: December 5, 2005

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

MEASUREMENT/TECHNICAL REPORT

This report concerns (check one): Original grant X
Class II change _____

Equipment type: **Low Frequency , Low Power Transmitter**

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? yes _____ No X

If yes, defer until: _____
date

N.A. agrees to notify the Commission by N.A.
date

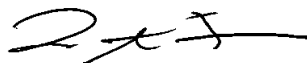
of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

United States Technologies, Inc.
3505 Francis Circle
Alpharetta, GA 30004

Phone Number: (770) 740-0717
Fax Number: (770) 740-1508

Report reviewed by:



Louis A. Feudi
Operations Manager

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

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Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

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Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

SECTION 1

GENERAL INFORMATION

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

1 GENERAL INFORMATION

1.1 Product Description

The Equipment Under Test (EUT) is a Radio Systems Corporation Low Frequency, Low Power Pet Containment System Model ProTx-Plus. The EUT is a dog fence transmitter. The EUT has one zone that utilizes a frequency of (10.65 kHz).

1.2 Related Submittal(s)/Grant(s)

The EUT is subject to the following authorizations:

- a) Certification as a low power transmitter (10.65 kHz)

The information contained in this report is presented for the Certification authorization for the transmitter portion of the EUT.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

SECTION 2

TESTS AND MEASUREMENTS

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TEST AND MEASUREMENTS

2.1 Configuration of Tested EUT

The sample was tested per ANSI C63.4, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Range of 30 MHz -1 GHz (1992). Conducted and radiated emissions data were taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 100 Hz (9 kHz – 150 kHz), 9kHz (150 kHz - 30 MHz), and 120 kHz (30 MHz - 1 GHz) respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. A block diagram of the tested system is shown in Figure 1. Test configuration photographs for spurious and fundamental emissions are shown in Figure 2.

The EUT was set up with a 300' length of wire connected to it, to simulate a typical installation. The wire was not buried, as it would be in a typical installation (approximately 2 -3 inches). Measurements were taken at all three antenna polarities along one of the long edges (111') of the rectangle at a distance of 1 and 3 meters to characterize the emissions. The worse case emissions were then tested at 10 meters. Results were corrected to 300 meters by the following $40 \log (300/10) = 59.1$ dB.

The sample used for testing was received by U.S. Technologies on September 20, 2005 in good condition.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

2.2 Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and submitted to the FCC, and accepted in their letter marked 31040/SIT. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number IC2982. The test facility also consists of a Lindgren Modular Shielded Room lined with both ferrite tile and Absorbers. Power input to the room is run through steel conduit beneath the ground plane and is filtered by screen room filters located at the shielded enclosure power.

Conducted and digital device testing was performed at US Tech's measurement facility as described to the FCC and acknowledged in their letter marked 31040/SIT/USTECH.

Additional radiated testing was performed at a vacant area that would allow measurements to be made 10 meters away from the EUT with the 300' length of wire connected to it.

2.3 Test Equipment

Table 2 describes test equipment used to evaluate this product.

2.4 Modifications

The following modifications were made by US Technologies to bring the EUT into compliance with FCC Part 15, Class B Rules and Regulations, Conducted Emissions requirements:

1. A .047 uF cap was installed between 15 VAC hot and ground (Pins 1 and 3), on CN1.
2. A .047 uF cap was installed between 15 VAC neutral and ground (Pins 2 and 4), on CN1.

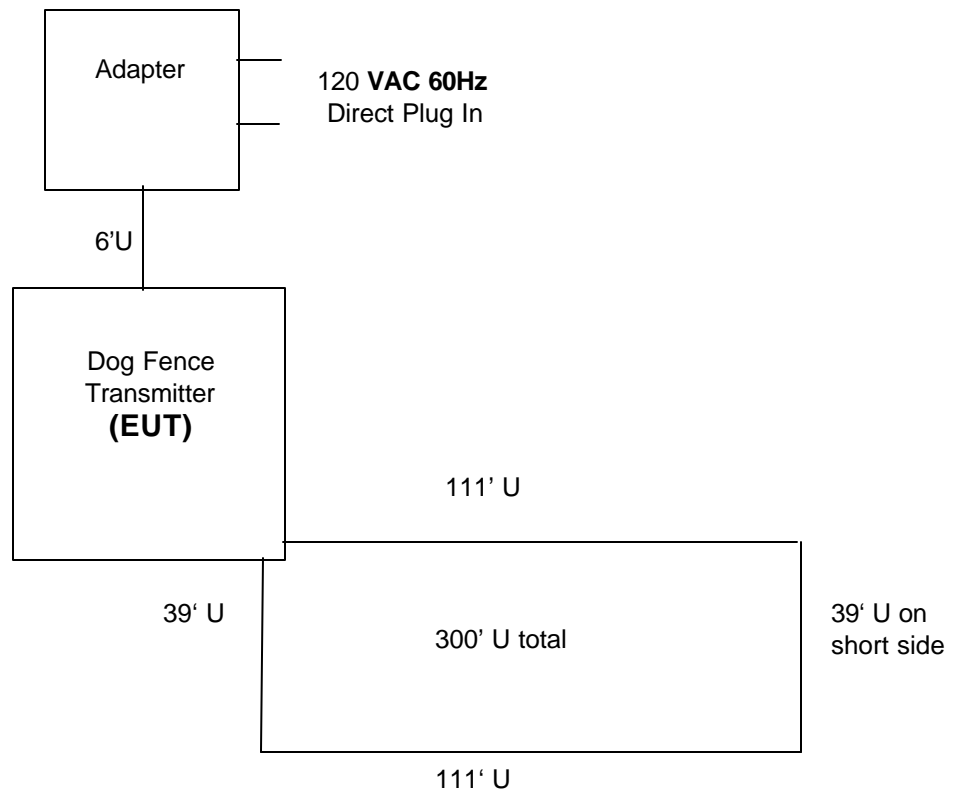
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Model: ProTx-Plus Transmitter

FIGURE 1

TEST CONFIGURATION



S = Shielded
U = Unshielded

FCC ID: KE3-PROTX1PLUS

U.S. Technologies, Inc.

FCC Part 15, Class B Application

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Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 1a**EUT and Peripherals**

PERIPHERAL MANU.	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Transmitter Radio Systems Corporation (EUT)	ProTx-Plus	None	KE3-PROTX1PLUS (Pending)	10' U Serial Cable 6' U Power Cable
Power Supply Manufacturer Unknown	300-021	None	N/A	120 VAC/ 60 Hz Direct Plug-in

S = Shielded

U= Unshielded

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

Table 1b Detail of I/O Cables Attached to EUT

DESCRIPTION OF CABLE	DETAILS OF CABLE			CABLE LENGTH
Serial Cable	Manufacturer and Part Number			10'
	Shield Type	Shield Termination	Type of Backshell	
	N/A	N/A	N/A	
Power Cable	Manufacturer and Part Number			6'
	Shield Type	Shield Termination	Type of Backshell	
	N/A	N/A	N/A	

Shield Type

N/A = None

F = Foil

B = Braided

2B = DoubleBraided

CND = Could Not Determine

Shield Termination

N/A = None

360 = 360°

P = Pigtail/Drain Wire

CND = Could Not Determine

Type of Backshell

N/A = Not Applicable

PS = Plastic Shielded

PU = Plastic Unshielded

MS = Metal Shielded

MU = Metal Unshielded

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Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 2
TEST INSTRUMENTS

EQUIPMENT	MODEL NUMBER	MANUFACTURER	SERIAL NUMBER	DATE OF LAST CALIBRATION
SPECTRUM ANALYZER	8558B	HEWLETT-PACKARD	2332A10055	2/25/05
SPECTRUM ANALYZER	8593E	HEWLETT-PACKARD	3205A00124	7/5/05
SIGNAL GENERATOR	8648B	HEWLETT-PACKARD	3642U01679	9/15/05
RF PREAMP	8447D	HEWLETT-PACKARD	2944A07436	4/6/05
LOOP ANTENNA	SAS- 200/562	A.H. SYSTEMS	142	4/25/06
HORN ANTENNA	SAS-571	A.H. SYSTEMS	605	4/1/05
BICONICAL ANTENNA	3110B	EMCO	3115	5/31/05
LOG PERIODIC ANTENNA	3146	EMCO	3236	6/3/05
LISN (x 2) 8028-50-TS24-BNC	8028	SOLAR ELE.	910494 & 910495	1/27/05
CALCULATION PROGRAM	N/A	N/A	EMCCALC	N/A

Note: The calibration interval of the above test instruments is 12 months and all calibrations are traceable to NIST/USA.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

2.5 Field Strength of Fundamental Emission (47 CFR 15.209)

Measurements were made using a peak detector. Field strength of the peak fundamental emission is shown in Table 3.

For purposes of this test, the EUT was set to a maximum duty cycle, maximum TX power, and 10.65 kHz transmit frequency.

The unit has a 303.0 MHz built-in receiver that maximizes fence emissions when activated. For this test, the unit was jumpered to configure a continuous transmit at maximum power.

2.6 Duty Cycle Correction During 100 msec:

Although the Transmitter has a Duty Cycle associated with the output of the transmitter, Duty Cycle correction was not applied.

U.S. Technologies, Inc.

FCC Part 15, Class B Application

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Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 3**FIELD STRENGTH OF FUNDAMENTAL EMISSION****Peak Measurements, Average Limits**

Side A

FREQ. (kHz)	TEST DATA (dBm) @ 10m	ANTENNA FACTOR + CABLE ATTENUATION	PEAK RESULTS (uV/m) @ 300m	AVERAGE FCC LIMITS (uV/m) @ 300m	MARGIN BELOW LIMIT (dB)
10.65	-75.23	72.9	189.9	225.4	1.5

SAMPLE CALCULATIONS:

Results uV/m @ 300m= Antilog ((-75.23 + 72.9 + 107 - 59.1)/20) =

CONVERSION FROM dBm TO dBuV = 107 dB

Correction from 10m to 300m = -59.1 dB

Test Date: November 30, 2005**Tested By:****Name:****Austin E. Thompson, Jr.**

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

2.7 Field Strength Of Spurious Emissions (47 CFR 15.209)

Measurements were made using a peak detector. Field strength of Spurious Emissions are shown in Table 4. For all emission measurements made the limits given in 15.209 were applied.

For purposes of this test, the EUT was set to a maximum duty cycle, maximum TX power, and 10.65 kHz transmit frequency.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 4**FIELD STRENGTH OF SPURIOUS EMISSIONS****Peak Readings (< 30 MHz), Average Limits**

FREQ. (kHz)	TEST DATA (dBm) @ 10m	ANTENNA FACTOR + CABLE ATTENUATION	PEAK RESULTS (uV/m) @ 300m	AVERAGE FCC LIMITS (uV/m) @ 300m	MARGIN BELOW LIMIT (dB)
20.715	-92.80	70.7	19.5	115.9	15.5
40.4	-89.35	66.03	11.95	59.3	13.9
59.98	-94.79	62.8	6.25	40.0	16.1
105	-83.36	57.7	12.9	22.9	5.0
141.75	-87.54	55.2	6.0	17.1	9.1

SAMPLE CALCULATIONS:

Results uV/m @ 300m= Antilog ((-92.88 +70.7 + 107 - 59.1)/20) = 19.5

CONVERSION FROM dBm TO dBuV = 107 dB

Correction from 10m to 300m = -59.1 dB

Test Date: September 21, 2005**Tested By:****Name: Austin E. Thompson, Jr.**

U.S. Technologies, Inc.

FCC Part 15, Class B Application

Issue Date: December 5, 2005

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

2.8 Radiated Emissions (47 CFR 15.109a)

Radiated emissions were evaluated from 30 to 1000 MHz. Measurements were made with the analyzer's bandwidth set to 120 kHz. These results are shown Table 5.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 5a RADIATED EMISSIONS DATA**CLASS B****MEASUREMENTS 30 MHz – 1 GHz**

Radiated Emissions Class B								
Test By:	Test: FCC Verification				Client: Radio Systems Corporation			
AT	Project: 05-0247				Model: ProTx-Plus			
Frequency Range			S/N		Calibrated:			
1BI3mH Model: 3110B			S/N 9307-1431		25/May/2005			
1BI3mV Model: 3110B			S/N 9307-1431		25/May/2005			
OATS Cable: 75ft.					1/September/2005			
Frequency	Test Data	Test Data	AF+CA-AMP	Results	Limits	Distance /	Margin	PK = n
(MHz)	(dBm)	(dBuV)	(dB)	(dBuV)	(dBuV)	Polarity	(dB)	/ QP
270.00	-102.0	5.0	19.5	24.5	46.5	3m./VERT	22.0	PK
270	-96.0	11.0	19.2	30.2	46.5	3m./HORZ	16.3	PK
305	-92.0	15.0	20.9	35.9	46.5	3m./VERT	10.6	PK
305	-90.0	17.0	21.8	38.8	46.5	3m./HORZ	7.7	PK

SAMPLE CALCULATIONS**RESULTS uV/m @ 3m**

$$\text{Antilog } ((-102.0 + 19.5 + 107)/20) = 24.5$$

$$\text{CONVERSION FROM dBm TO dBuV} = 107 \text{ dB}$$

$$\text{Margin in dB} = 20 * (\log (24.5 / 46.5)) = 22.0 \text{ dB}$$

Test Date: September 28, 2005

Tested by

Signature:


Name: Austin Thompson

U.S. Technologies, Inc.

FCC Part 15, Class B Application

Issue Date: December 5, 2005

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 5b RADIATED EMISSIONS DATA**CLASS B****Measurements > 1 GHz**

Radiated Emissions								
Test By:	Test: FCC Part 15 Verification				Client: Radio Systems Corporation			
DPB	Project: 05-0247		Class: B		Model: ProTx-Plus			
Frequency	Test Data	Test Data	AF+CA-AMP	Results	Limits	Distance /	Margin	PK = n
(MHz)	(dBm)	(dBuV)	(dB)	(uV/m)	(uV/m)	Polarity	(dB)	/ QP
NOT APPLICABLE								

Test Date: September 28, 2005**Tested by
Signature:****Name: Austin Thompson**

U.S. Technologies, Inc.

FCC Part 15, Class B Application

Issue Date: December 5, 2005

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

2.9 Power Line Conducted Emissions (47 CFR 15.107a)

Conducted Emissions were evaluated from 450 kHz to 30 MHz. Measurements were made with the analyzer's bandwidth set to 9 kHz, emissions are shown in Table 6. The EUT was checked with a 300' fence length.

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 6a CONDUCTED EMISSIONS DATA**PHASE DATA 0.15 MHz - 30 MHz**

Line Conducted Emissions Class B Peak Measurements VS Average Limits								
Test By:		Test: Conducted				Client: Radio Systems Corporation		
AT		Project: 05-248		Class: B		Model: ProTx-Plus		
Frequency Range		Model					Calibrated:	
		LISNP ure (Deg C).: 24					No 20, 2004 3:45 PM	
		LISNN ure (Deg C).: 24					No y 20, 2004 3:49 PM	
		ConCable 75ft.					Yes	
Frequency	Test Data	AF	Test Data	AF+CA-AMP	Results	Limits	Margin	PK = n
(MHz)	(dBm)	Table	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	/ QP
0.18	-82.3	LISNP	24.7	0.1	24.8	46.0	21.2	PK
0.31	-87.3	LISNP	19.7	0.1	19.8	46.0	26.2	PK
0.34	-86.0	LISNP	21.0	0.1	21.1	46.0	24.9	PK
0.42	-86.0	LISNP	21.0	0.1	21.1	46.0	24.9	PK
0.575	-86.7	LISNP	20.3	0.1	20.4	46.0	25.6	PK
2.33	-85.3	LISNP	21.7	0.1	21.8	46.0	24.2	PK

SAMPLE CALCULATIONS: $24.7 + 0.1 = 24.8$ dBuV**Test Date: September 28, 2005****Tested by****Signature:****Name: Austin Thompson**

U.S. Technologies, Inc.

FCC Part 15, Class B Application

Issue Date: December 5, 2005

Report Number: 05-0247

Customer: Radio Systems Corporation

Model: ProTx-Plus Transmitter

TABLE 6b CONDUCTED EMISSIONS DATA**NEUTRAL DATA 0.15 MHz - 30 MHz.**

Line Conducted Emissions Class B Peak Measurements VS Average Limits								
Test By:	Test: FCC Part 15 Verification / Neutral				Client: Radio Systems Corporation			
AT	Project: 05-0248		Class: B		Model: ProTx-Plus			
Frequency Range								
.15 MHz	30 MHz							
Frequency	Test Data	AF	Test Data	AF+CA-AMP	Results	Limits	Margin	PK = n
(MHz)	(dBm)	Table	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	/ QP
0.313	-88.5	LISNN	18.5	0.1	18.6	46.0	27.4	PK
0.56	-88.3	LISNN	18.8	0.1	18.9	46.0	27.1	PK
0.62	-85.0	LISNN	22.0	0.1	22.1	46.0	23.9	PK
0.68	-91.1	LISNN	15.9	0.1	16.0	46.0	30.0	PK
24	-92.0	LISNN	15.0	0.1	15.1	46.0	30.9	PK
24.18	-92.1	LISNN	14.9	0.1	15.0	46.0	31.0	PK

SAMPLE CALCULATIONS: 18.5 + 0.1 = 18.6 dBuV**Test Date: September 28, 2005****Tested by****Signature:**

Name: Austin Thompson